

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the present amendment and in light of the following discussion, is respectfully requested.

Claims 38-48, 50-57 and 77 are pending. In the present Amendment, Claims 38-40, 44, 47, 50, 54-56, 63, and 74 are currently amended, Claim 76 is canceled without prejudice or disclaimer, and new Claim 77 is added. Support for the present amendment can be found in the original specification, for example, at page 17, line 11 to page 18, line 33, at page 19, line 15 to page 20, 24, at page 21, lines 15-19, at page 33, lines 17-20, at page 48, line 29 to page 50, line 12, at page 57, lines 14-19, and in Figures 1-5, 13, and 14. Accordingly, it is respectfully submitted that no new matter is added.

In the outstanding Office Action, Claims 39, 40, 42, 43, 50, 51, 59, 62, 65, and 69 were rejected under 35 U.S.C. § 112, second paragraph; and Claims 38-48 and 50-76 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cuatto et al. (Non-patent publication titled “A Case Study in Embedded Systems Design: An Engine Control Unit,” hereinafter “Cuatto” in view of Coleman et al. (Non-patent publication titled “Introducing Object Charts or How to Use State Charts in Object-Oriented Design,” hereinafter “Coleman”).

In response to the rejection under 35 U.S.C. § 112, second paragraph, in Section 5 of the outstanding Office Action, each individual rejection is addressed as follows:

i. Claim 39 is hereby amended to remove the term “supplementary” and to recite “an elementary control operation” to be consistent with the description, for example, at page 33, lines 17-20 and at page 48, line 29, to page 50, line 12.

ii. Regarding Claim 42, it is noted that Claim 42 actually recites that a list of executions of software and hardware drivers, writes and reads in data frames, and data frame transferred to a network is automatically synthesized following mapping. Further, Claim 42 also recites that requirements of delay of execution of the drivers and of the elementary

operations are specified. The claimed lists and requirements are explained, for example, at page 32, lines 9-16, at page 33, lines 15 and 16, and at page 68, line 33 to page 70, line 33.

iii. It is noted that Claim 33 recites that a service has at least two variants. As can be seen in the exemplary embodiment shown in Figure 6, the openings service includes the badge variant and the key variant.

iv. Claim 50 is hereby amended to clarify that the modes are not directly controlled by the response of the system to the services associated with the user request. As can be seen in Figure 7, the user request includes an opening service, and the modes include (1) doors open, trunk closed, (2) all openings open, (3) doors closed, trunk closed, and (4) doors closed, trunk open. Thus, the initial state of the doors and trunk are not controlled by the opening service requested by the user. Instead, the modes are the state of the vehicle regardless of the request of the user.

v. As can be seen in the exemplary embodiment shown in Figure 7, the opening service includes at least phase 1 and phase 2. An additional explanation can be found, for example, at page 32, lines 4-16.

vi. As explained above with respect to subsection iv., Figure 7 shows exemplary modes in which the calculating unit must function.

vii. Exemplary frames can be seen in Figures 12 and 16, and are described, for example, in the respective descriptions of Figures 12 and 16, in addition to page 4, line 31 to page 5, line 7.

viii. Regarding the term “service variants,” please see the above explanation with respect to subsection iii.

ix. A set of exchange data frames are described, for example, at page 44, lines 1-9 and at page 50, lines 22-31.

Accordingly, in view of the above-described amendments and explanations, it is believed that every claim term is clearly defined in the specification and figures. Thus, all claim terms are believed to be definite. However, if the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually acceptable language.

Turning now to the rejection under 35 U.S.C. § 103(a), Applicants respectfully request reconsideration of this rejection and traverse this rejection, as discussed below.

Amended independent Claim 38 recites that the mapping includes dividing a product to be mapped into a plurality of zones, routing electrical wires between components in the specified system architecture of the product, and linking at least a first zone of the plurality of zones to a second zone of the plurality of zones with connectors through which the routing of the electrical wires between the components passes. Exemplary embodiments of such mapping can be seen, for example, in Figures 2-5. It is respectfully submitted that the cited combination of references does not disclose or suggest every feature recited in amended Claim 38.

Cuatto describes a hardware/software co-design tool targeted at reactive, real-time, control dominated embedded systems, composed of software on a micro-controller and semi-custom hardware. As can be seen in Figure 3 on page 78 of Cuatto, Cuatto describes main functional units including routing between them. Figure 5 shows another embodiment including routing.

The Office Action, on page 5, relies on Coleman as describing using finite state machines to represent services and use cases and associating user requests with the use case. Additionally, Coleman describes object charts that include routing between individual elements of a system.

However, it is respectfully submitted that the combination of Cuatto in view of Coleman does not disclose or suggest “mapping the elementary operations onto calculating units, including dividing a product to be mapped into a plurality of zones, routing electrical wires between components of the specified system architecture of the product, and linking at least a first zone of the plurality of zones to a second zone of the plurality of zones with connectors through which the routing of the electrical wires between the components passes,” as recited in amended Claim 38.

Instead, as acknowledged in the first paragraph on page 14 of the Office Action, Cuatto and Coleman do not explicitly disclose selecting and routing electrical wires. The Office Action takes the position that “it would have been obvious to substitute the electronic control unit taught by Cuatto with any type of electrical circuit (thus, the routing of electrical wires) because the technique of Cuatto (hardware/software co-design) is commonly used in the art for electrical circuits design.” However, it is noted that the cited references do not disclose or suggest dividing an object to which the electrical circuit of Cuatto is to be applied to a plurality of zones and linking at least a first zone of the plurality of zones to a second zone of the plurality of zones with connectors through which the routing of the electrical wires between the component passes. Further, it would be improper to rely on KSR to cure these above-noted deficiencies of Cuatto in view of Coleman, as KSR only addresses the situation where each claim element is known within one of the cited references. Thus, KSR cannot properly be relied upon find it obvious to include an element which is not disclosed or suggested by either of the cited references.

Accordingly, it is respectfully submitted that the cited combination does not disclose or suggest every feature recited in amended Claim 38. Thus, it is respectfully requested that the rejection of Claim 38, and all claims dependent thereon, as unpatentable over Cuatto in view of Coleman be withdrawn.

Independent Claims 44 and 74, each being directed to an alternative embodiment, recite features similar to those discussed above with respect to Claim 38. Thus, it is respectfully requested that the rejection of Claims 44 and 74, and all claims dependent thereon, also be withdrawn.

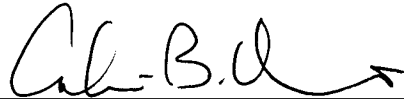
New Claim 77 is added by the present Amendment. Support for new Claim 77 can be found in the original specification, for example, at page 21, lines 4-6 and at page 57, lines 14-19. Thus, it is respectfully submitted that no new matter is added.

Additionally, as neither reference discloses or suggests dividing the object to which the mapping is applied into a plurality of zones, it is also respectfully submitted that neither reference discloses or suggests separately defining prohibited subzones within the zones such that the routing is not allowed to pass through the prohibited subzone. Thus, it is respectfully submitted that Claim 77 further patentably defines over the cited references.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for formal allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



Philippe J.C. Signore, Ph.D.
Attorney of Record
Registration No. 43,922

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/09)

Colin B. Harris
Registration No. 58,969